AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented) An ink-jet recording apparatus comprising:

a recording head for receiving ink supplied via a first ink supply path and for ejecting ink droplets;

a second ink supply path along which ink is transmitted from an ink supply to said first ink supply path,

wherein said ink is transmitted in said second ink supply path generally in an ink transfer direction from said ink supply to said first ink supply path,

wherein said second ink supply path comprises a connection portion that receives said ink from said ink supply and comprises an enlarged portion, and

wherein a cross-sectional area of said enlarged portion, which is substantially perpendicular to said ink transfer direction, is greater than a cross-sectional area of said connection portion, which is substantially perpendicular to said ink transfer direction; and

a filter which is located at a joint area that forms a communication portion situated between said first ink supply path and said second ink supply path, wherein said enlarged portion comprises at least a portion of said joint area,

wherein ink induction paths are formed in said enlarged portion in order to use capillary attraction to induce the low of ink through said filter, and

wherein said enlarged portion is tapered such that said cross-sectional area of said enlarged portion gradually changes along said ink transfer direction from said second ink supply path to said first ink supply path.

2. (original) An ink-jet recording apparatus according to claim 1, wherein said ink induction paths are constituted by projections that are radially formed at small pitches so as to capture an air bubble.

3. (original) An ink-jet recording apparatus according to claim 1, wherein grooves are formed between said adjacent projections in order to supply ink to said filter using capillary attraction.

4. (previously presented) An ink-jet recording apparatus according to claim 1, wherein said ink induction paths are extended to an area that does not face said first ink supply path.

5. (previously presented) An ink-jet recording apparatus according to claim 1, wherein said ink induction paths are formed at positions that are farthest from said first ink supply path in said cross-sectional area of said enlarged portion.

6. (previously presented) An ink-jet recording apparatus according to claim 1, wherein said ink induction paths are formed as grooves.

7. (previously presented) An ink-jet recording apparatus according to claim 1, wherein said ink induction paths are formed as ribs.

8. (previously presented) An ink-jet recording apparatus according to claim 4, wherein said ink induction paths are integrally formed with said enlarged portion.

9. (previously presented) An ink-jet recording apparatus according to claim 4, wherein said ink induction paths are formed by mounting a groove formation member in said enlarged portion.

10 (previously presented) An ink-jet recording apparatus comprising:

a recording head for receiving ink supplied via a first ink supply path and for ejecting ink droplets;

a second ink supply path along which ink is transmitted from an ink supply to said first ink supply path,

wherein said ink is transmitted in said second ink supply path generally in an ink transfer direction from said ink supply to said first ink supply path,

wherein said second ink supply path comprises a connection portion that receives said ink from said ink supply and comprises an enlarged portion, and

wherein a cross-sectional area of said enlarged portion, which is substantially perpendicular to said ink transfer direction, is greater than a cross-sectional area of said connection portion, which is substantially perpendicular to said ink transfer direction; and

a filter which is located at a joint area that forms a communication portion situated between said first ink supply path and said second ink supply path, wherein said enlarged portion comprises at least a portion of said joint area,

wherein ink induction paths are formed in said enlarged portion in order to use capillary attraction to induce the flow of ink through said filter,

wherein said ink induction paths are extended to an area that does not face said first ink supply path, and

wherein said ink induction paths are formed by mounting a rib formation member in said enlarged portion.

11. (previously presented) An ink-jet recording apparatus according to claim 4, wherein said ink induction paths are formed so as to be coaxial with said second ink supply path.

12. (previously presented) An ink-jet recording apparatus comprising:

a recording head for receiving ink supplied via a first ink supply path and for ejecting ink droplets;

a second ink supply path along which ink is transmitted from an ink supply to said first ink supply path,

wherein said ink is transmitted in said second ink supply path generally in an ink transfer direction from said ink supply to said first ink supply path,

wherein said second ink supply path comprises a connection portion that receives said ink from said ink supply and comprises an enlarged portion, and

wherein a cross-sectional area of said enlarged portion, which is substantially perpendicular to said ink transfer direction, is greater than a cross-sectional area of said connection portion, which is substantially perpendicular to said ink transfer direction; and

a filter which is located at a joint area that forms a communication portion situated between said first ink supply path and said second ink supply path, wherein said enlarged portion comprises at least a portion of said joint area,

wherein ink induction paths are formed in said enlarged portion in order to use capillary attraction to induce the flow of ink through said filter,

wherein said ink induction paths are extended to an area that does not face said first ink supply path, and

wherein said ink induction paths are formed in a holder that is mounted in said enlarged portion, said holder including a rod-shaped member that is positioned coaxially with said second ink supply path.

13. (previously presented) An ink-jet recording apparatus according to claim 4, wherein said ink induction paths include a layer having an affinity to ink.

14. (previously presented) An ink-jet recording apparatus according to claim 1, wherein said enlarged portion is contiguous with said connection portion and is tapered in shape.

15. (previously presented) An ink-jet recording apparatus comprising:

a recording head for receiving ink supplied via a first ink supply path and for ejecting ink droplets;

a second ink supply path along which ink is transmitted from an ink cartridge to said first ink supply path; and

a filter which is located at a joint area that forms a communication portion situated between said first ink supply path and said second ink supply path,

wherein ink induction paths are formed at said joint area adjacent to said second ink supply path in order to use capillary attraction to induce the flow of ink through said filter, and said ink induction paths are extended from an ink inlet of said second ink supply path, and

wherein said joint area is tapered such that a cross-sectional area of said joint area gradually changes along a direction from said second ink supply path to said first ink supply path.

16. (previously presented) An ink-jet recording apparatus according to claim 9, wherein said groove formation member comprises rigid grooves.

17. (previously presented) An ink-jet recording apparatus according to claim 11, wherein said ink induction paths do not contact an inner wall of said enlarged portion.

18. (previously presented) An ink jet recording apparatus according to claim 11, wherein said ink induction paths are disposed substantially in a center of said cross-section of said enlarged portion.

19. (previously presented) An ink-jet recording apparatus according to claim 1, wherein said cross-sectional area of said enlarged portion gradually increases along said ink transfer direction from said second ink supply path to said first ink supply path.

20. (previously presented) An ink supply passage structure for supplying ink from an ink cartridge to a recording head, comprising:

a first ink supply path having a first open end, wherein said first ink supply path axially terminates at the first open end;

a second ink supply path connected to and extending from the first open end to be communicated with the first ink supply path, wherein the second ink supply path is at least as large in cross sectional area as the first ink supply path, and the first open end of the first ink supply path forms an axial terminus of the second ink supply path; and

a protrusion and/or groove axially provided to the second ink supply path, wherein the protrusion and/or groove axially extends along the second ink supply path and axially terminates at the first open end of the first ink supply path,

wherein the first ink supply path axially terminates at a longitudinal axis of the first ink supply path,

wherein the longitudinal axis of the first ink supply path is substantially parallel to a longitudinal axis of the second ink supply path, and

wherein the first ink supply path is located upstream of the second ink supply path in a direction in which ink is supplied from the ink cartridge to the recording head.

21. (canceled).

22. (currently amended) An ink supply passage structure comprising:

a first ink supply path having a first open end, wherein said first ink supply path axially terminates at the first open end;

a second ink supply path connected to and extending from the first open end to be communicated with the first ink supply path, wherein the second ink supply path has a cross sectional area larger than that of the first ink supply path, and wherein the first open end of the first ink supply path forms an axial terminus of the second ink supply path; and

a protrusion and/or groove axially provided to the second ink supply path, wherein the protrusion and/or groove is contiguous to at least the first open end of the first ink supply path,

wherein the first ink supply path axially terminates at a longitudinal axis of the first ink supply path,

wherein the longitudinal axis of the first ink supply path is substantially parallel to a longitudinal axis of the second ink supply path, and

wherein the protrusion and/or groove axially extends from the second ink supply path, across the first open end, and into the first ink supply path,

wherein the first ink supply path is located upstream of the second ink supply path with respect to a direction in which ink is supplied from the ink cartridge to the recording head.

23. (previously presented) An ink supply passage structure according to claim 20, wherein a portion of the second ink supply path containing the protrusion and/or groove is in the form of a conical chamber.

24. (previously presented) An ink supply passage structure comprising:

a first ink supply path having a first open end, wherein said first ink supply path axially terminates at the first open end;

a second ink supply path connected to and extending from the first open end to be communicated with the first ink supply path, wherein the second ink supply path is at least as large in cross sectional area as the first ink supply path, and the first open end of the first ink supply path forms an axial terminus of the second ink supply path;

a protrusion and/or groove axially provided to the second ink supply path, wherein the protrusion and/or groove is contiguous to at least the first open end of the first ink supply path, wherein the first ink supply path axially terminates at a longitudinal axis of the first ink supply path, and

wherein the longitudinal axis of the first ink supply path is substantially parallel to a longitudinal axis of the second ink supply path; and

a filter located at an opposite axial terminus of the second ink supply path, wherein said opposite axial terminus is opposite to and downstream from said axial terminus of the second ink supply path.

25. (previously presented) An ink supply passage structure according to claim 20, wherein a plurality of protrusions are arranged along an inner circumference of the second ink supply path so that an ink induction path is formed between each adjacent pair of protrusions.

26. (previously presented) An ink supply passage structure according to claim 20, wherein a plurality of grooves are arranged along an inner circumference of the second ink supply path so that each of the grooves forms an ink induction path.

27. (previously presented) An ink supply passage structure according to claim 20, wherein the protrusion is formed of material having ink affinity.

28. (currently amended) An ink supply passage structure comprising:

a first ink supply path having a first open end, wherein said first ink supply path axially terminates at the first open end;

a second ink supply path connected to and extending from the first open end to be communicated with the first ink supply path, wherein the second ink supply path has a cross sectional area larger than that of the first ink supply path, and wherein the first open end of the first ink supply path forms an axial terminus of the second ink supply path; and

a protrusion and/or groove axially provided to the second ink supply path, wherein the protrusion and/or groove is contiguous to at least the first open end of the first ink supply path,

wherein the protrusion and/or groove axially extends from the second ink supply path, across the first open end of the first ink supply path, and into the first ink supply path,

wherein the first ink supply path is located upstream of the second ink supply path with respect to a direction in which ink is supplied from the ink cartridge to the recording head.

29. (previously presented) An ink supply passage structure for supplying ink from an ink cartridge to a recording head, comprising:

a first ink supply path having a first open end, wherein said first ink supply path axially terminates at the first open end;

a second ink supply path connected to and extending from the first open end to be communicated with the first ink supply path, wherein the second ink supply path has a cross

sectional area larger than that of the first ink supply path, and wherein the first open end of the first ink supply path forms an axial terminus of the second ink supply path; and

a protrusion and/or groove axially provided to the second ink supply path, wherein the protrusion and/or groove axially extends along the second ink supply path and is contiguous to at least the first open end of the first ink supply path,

wherein the first ink supply path axially terminates at a longitudinal axis of the first ink supply path,

wherein the longitudinal axis of the first ink supply path is substantially parallel to a longitudinal axis of the second ink supply path,

wherein the first ink supply path is located upstream of the second ink supply path in a direction in which ink is supplied from the ink cartridge to the recording head, and

wherein the cross sectional area of the first ink supply path is substantially constant over an entire length of the first ink supply path.

30. (canceled)

31. (previously presented) The ink supply passage structure according to claim 24, wherein the first ink supply path is located upstream of the second ink supply path with respect to a direction in which ink is supplied from the ink cartridge to the recording head.

32. (canceled)

33. (previously presented) The ink supply passage structure according to claim 20, wherein the second ink supply path has a cross-sectional area which is larger than that of the first ink supply path.

34. (previously presented) The ink supply passage structure according to claim 24, wherein the second ink supply path has a cross-sectional area which is larger than that of the first ink supply path.